Paper No. 64

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RICHARD B. WRIGHT

Appeal No. 2003-0786
Application 09/059,712

ON BRIEF

Before ABRAMS, FRANKFORT, and NASE, Administrative Patent Judges.

FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 24 through 35, 37, 42 through 44, 46, 48, 50, 52 and 54, which are the only claims remaining in this application. Claims 1 through 23, 36, 38 through 41, 45, 47, 49, 51, 53 and 55 have been canceled.[1]

[1] Decided concurrently herewith is the appeal in appellant's co-pending Application No. 09/282865, filed March 31, 1999 (Appeal No. 2003-1352). Given the close nature of the subject

(continued...)

As noted on page 1 of the specification, appellant's invention relates to a wrench and fastener arrangement with complementary driving surfaces thereon that generate a higher torque in the loosening direction than in the tightening direction. More specifically, the invention involves an asymmetrical fastening and wrenching system comprising a fastener (e.g., Fig. 6) and a wrench (e.g., Fig. 5), wherein the fastener has a single fastener periphery and the wrench has a single wrench periphery designed and configured to engage the single periphery of the fastener, and wherein each of the fastener periphery and the wrench periphery includes a plurality of tightening surfaces and a plurality of loosening surfaces formed thereon. Independent claims 24 and 42 are representative of the subject matter on appeal and a copy of those claims can be found in Exhibit A of appellant's brief (Paper No. 51).

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

---

[1](...continued)
matter of that application and this one, the examiner should consider, during any further prosecution of the present application, the possibility of a provisional obviousness-type double patenting rejection.

Dmitroff	2,685,812	Aug. 10, 1954
Grimm et al. (Grimm)	3,354,757	Nov. 28, 1967

Claims 24 through 35, 37, 42 through 44, 46, 48, 50, 52 and 54 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Claims 25, 26, 43 and 44 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter applicant regards as the invention.

Claims 24 through 29, 34, 35, 37, 42 through 44, 46, 52 and 54 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Grimm in view of Dmitroff.

Rather than reiterate the examiner's full commentary with regard to the above-noted rejections and the conflicting viewpoints advanced by appellant and the examiner regarding those rejections, we make reference to the examiner's answer (Paper No. 52, mailed September 19, 2002) for the reasoning in support of the rejections, and to appellant’s brief (Paper No. 51, filed

July 1, 2002) and reply brief (Paper No. 53, filed November 25, 2002) for the arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by appellant and the examiner. As a consequence of our review, we have made the determinations which follow.

In rejecting claims 24 through 35, 37, 42 through 44, 46, 48, 50, 52 and 54 under 35 U.S.C. § 112, first paragraph, the examiner has taken the position (answer, pages 3-4) that appellant's reference to "a single fastener periphery" and "a single wrench periphery" constitute new matter, since such was not originally disclosed and the drawings fail to disclose a complete view of the invention, because only an end view of the invention is shown. In addition, the examiner contends that the originally filed specification fails to provide support for "can generate a greater torque to failure..." as set forth in line 2 of claim 24.

After a complete review of the application disclosure as originally filed, we agree with appellant that one skilled in the art would have readily discerned from the showings in Figures 4-8

of the application drawings and the description thereof in the specification that appellant has possession at the time of filing of the present application of an asymmetrical wrenching system including an asymmetrical fastener having "a single fastener periphery" and an asymmetrical wrench having "a single wrench periphery" designed and configured to engage each other, and wherein each of the fastener periphery and the wrench periphery includes a plurality of tightening surfaces and a plurality of loosening surfaces formed thereon. In particular, we note that the wrench (100) seen in Figure 5 of the application drawings and the fastener (110) seen in Figure 6 clearly exemplify the recited structure and the recited relationship between the single fastener periphery and the single wrench periphery.

Unlike the examiner, we do not see that the recitation of "a single fastener periphery" and "a single wrench periphery" designed and configured to engage each other in appellant's "comprising" format claims in any way excludes that both the fastener and wrench of appellant's invention would also have other peripheral surfaces. The claim language merely sets forth that each of the elements of appellant's invention (i.e., fastener and wrench) has a single periphery which is engageable with the single periphery of the other.

As for the recitation that the asymmetrical wrenching system of claim 24 "can generate a greater torque to failure in the loosening direction than the tightening direction," we recognize that this exact language was not present in the specification as originally filed, however, we agree with appellant (brief, pages 12-13) that one skilled in the art reading the specification and looking to the drawings of the application would have understood that the higher torque in the loosening direction mentioned throughout the specification can readily be related to "torque to failure" of the wrench or fastener since such a reference level is common in the art and would, as appellant urges, have been recognized as being inherently present in the application disclosure as originally filed.

For the above reasons, we will not sustain the examiner's rejection of claims 24 through 35, 37, 42 through 44, 46, 48, 50, 52 and 54 under 35 U.S.C. § 112, first paragraph.

Regarding the rejection of claims 25, 26, 43 and 44 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter applicant regards as the invention, we note that this rejection is premised on the examiner's purported inability to understand the "single periphery" language of the claims on appeal, since

such, in the examiner's view, is not clear from the original disclosure. However, we have disposed of that issue above and based on that determination, and appellant's arguments in the brief (pages 14-15), have concluded that these claims set out and circumscribe a particular area with a reasonable degree of precision and particularity. Accordingly, we will not sustain the examiner's rejection of appellant's claims 25, 26, 43 and 44 under 35 U.S.C. § 112, second paragraph.

We next look to the examiner's prior art rejection of claims 24 through 29, 34, 35, 37, 42 through 44, 46, 52 and 54 under 35 U.S.C. § 103(a) as being unpatentable over Grimm in view of Dmitroff. According to the examiner, Grimm discloses "all of the claimed subject matter except for the wrench and fastener being asymmetrical" (answer, page 4), while Dmitroff discloses an asymmetrical wrench and fastener. From such teachings, the examiner has concluded that it would have been obvious to one of ordinary skill in the art to form the wrench and fastener of Grimm as asymmetrical to allow for limited tightening torque and adequate torque in the loosening direction as taught by Dmitroff. After reviewing the applied references, we find the examiner's position regarding the obviousness of the above enumerated claims to be untenable.

Like appellant, we are of the view that there is no teaching, suggestion or motivation to combine Grimm and Dmitroff. Grimm discloses an improved wrenching configuration that employs the principle of spline wrenching in connection with fasteners such as nuts and bolts and with wrenches for such fasteners. More specifically, Grimm addresses the use of symmetrical spline configurations which provide optimum mutual engagement between the inner and outer mated components and also seeks to provide splines of a particular symmetrical shape so that essentially all wrenching forces are directed into a wrenching torque and little or no component of such forces is in a direction which would tend to burst the outer member, or wrench.

Dmitroff discloses a "constant torque nut" wherein the torque control is present in the nut itself and the nut may be tightened by an ordinary wrench to a preset maximum amount which cannot be exceeded. More particularly, Dmitroff discloses a constant torque nut (10) including an inner shell or nut portion (12) and a driving or tightening ring (20) mounted on nut portion (12) and held in place thereon by a split lock-ring or lock-washer (30). The nut portion (12) is provided on an external surface thereof with a series of ratchet-like teeth or serrations (16) which extend circumferentially around the nut portion. As

noted in column 3, lines 38-50, the ring (20) has an external hexagonal or other shape adapted to be engaged by a wrench and turned thereby, and has a liner of moldable, resilient rubber-like material (24) integrally bonded to its cylindrical inner wall (22). The inner face of the rubber-like liner (24) is formed with a series of ratchet-like teeth or serrations (26) which are very similar in shape to the teeth or serrations (16) but of a slightly larger size so that the ring (20) may be slipped over the nut portion (12) with their respective ratchet-like teeth in close contact, as shown in Figure 2 of the patent.

Dmitroff notes (col. 3, line 70, et seq.) that when torque is applied to the hexagonal outer portion of ring (20) in the direction of the arrow in Figure 6 to apply the nut (10) to a threaded bolt or stud (S),

> the ring and its ratchet-like teeth or serrations 26 will tend to ride up slightly on the corresponding teeth 16 of the internally threaded nut portion until sufficient traction or friction has developed and then the ring will turn the internally threaded nut portion 12 and advance it around and along the stud S. This will continue until the flange 18 of the nut portion 12 abuts the flat surface in which the stud is secured. At that moment, the resistance offered by the nut to rotation will increase sharply until it reaches a point at which it is equal to the driving force transmitted between the engaged ratchet teeth. The nut then will be securely threaded to the stud with the required torque and the inclined ratchet teeth will begin to slip to prevent any increase in applied torque.

In the paragraph bridging columns 4 and 5 of Dmitroff, it is noted that when it is desired to remove the constant torque nut from the stud (S), the hexagonal outer portion of the ring (20) may be turned by a wrench in the opposite direction. As can be seen in Figures 2 and 6, when the rotation is in this direction

> the sharply inclined or abrupt faces of the ratchet teeth oppose each other and thus substantially precludes the possibility of slippage of the ratchet teeth in this opposite direction. As a result, a much greater turning force may be applied during loosening of the constant torque nut than could be applied during the tightening thereof, due to the unidirectional features of the driving engagement between the ring member 20 and the nut portion 12.

In contrast to the examiner's findings, we do not see that Dmitroff discloses "an asymmetrical wrench and fastener" (emphasis added). Like appellant, it is our determination that the outer driving ring (20) of the constant torque nut (10) of Dmitroff is not -- according to its structure, function and Dmitroff's express statements -- a "wrench." In our view, a "wrench" is a tool for gripping and turning the head of a bolt, nut, or the like, and conventionally consists of a bar or handle of metal having fixed or adjustable jaws configured to engage the

head of a bolt or nut. A wrench is placed on or over the head of a bolt or nut for applying torque thereto for tightening or loosening the fastener and then removed from the head of the fastener after completion of that operation. By comparison, in Dmitroff, the ring (20) is by disclosure and function an integral part of the nut itself and has a hexagonal outer surface that is to be engaged by a wrench for tightening or loosening the constant torque nut, with the driving ring (20) remaining in place on the nut portion (12) after any such tightening or loosening. Thus, one of ordinary skill in the art would not view the driving or tightening ring (20) of Dmitroff's constant torque nut (10) as a "wrench."

Moreover, we find ourselves in agreement with appellant (brief, pages 18-21, and reply brief, pages 3-5) that the examiner's rejection is the result of hindsight reconstruction and is totally contrary to the teachings in Grimm regarding providing wrenching splines on the fastener (Figs. 1-3) and wrench (Fig. 4) therein having the particular symmetrical configuration seen in Figures 5 and 6 of that patent. In that regard, we consider that any combination as posited by the examiner would require such substantial reconfiguration and redesign of the components of the symmetrical spline wrenching

configuration in Grimm as to basically destroy that reference for its intended purpose. Since we have determined that the teachings and suggestions which would have been fairly derived from Grimm and Dmitroff would not have made the subject matter as a whole of claims 24 through 29, 34, 35, 37, 42 through 44, 46, 52 and 54 on appeal obvious to one of ordinary skill in the art at the time of appellant's invention, we must refuse to sustain the examiner's rejection of those claims under 35 U.S.C. § 103(a)[2].

In summary, since we have refused to sustain any of the rejections before us on appeal, it follows that the decision of

[2] Since we have concluded that the examiner has failed to establish a prima facie case of obviousness with regard to the claimed subject matter before us on appeal, we find it unnecessary to comment on appellant's evidence of secondary considerations relating to long felt need, failure by others and superior results.

the examiner rejecting claims 24 through 35, 37, 42 through 44, 46, 48, 50, 52 and 54 of the present application is reversed.

REVERSED

NEAL E. ABRAMS Administrative Patent Judge	)	
CHARLES E. FRANKFORT Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JEFFREY V. NASE Administrative Patent Judge	)	

CEF/dal

D. PETER HOCHBERG, ESQ.
D. PETER HOCHBERG, CO., L.P.A.
1940 EAST 6TH STREET- 6TH FLOOR
CLEVELAND OH 44114